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MAY, 1882.

AS THE ROSE from the earliest times has been the most admired and the most zealously cultivated of all flowers, so have its qualities inspired the pen of the poet in every age and every country, and classical and modern literature abound with tributes to its grace and beauty. Much of the space of horticultural journals has always been devoted to descriptions and cultural directions in regard to this favorite plant, and special writings upon the fruitful subject appear from time to time; still, with the progress of garden art, the demand continues for works that shall embrace the essential and well-established principles, and the most advanced practices pertaining to the cultivation of the plant, and descriptions of varieties that are discriminative, appreciative, and just.

As might have been expected, our own town, so long celebrated for its horticultural productions, and especially for the culture of Roses, now produces a writer on this special subject. "The Rose" is the title of a handsome volume just issued, written by our fellow-townsmen, Mr. H. B. ELLWANGER, who, reared in a garden, and literally surrounded from infancy by Roses, may very properly be considered entitled to speak of the merits of the queen of flowers, and willingly may we accord him attention when assured, as every reader will be, that his

authorship is not actuated merely by mercenary purposes. He is a devotee of the Rose, avowed by formal acknowledgement, and attested by the spirit that breathes through his pages.

As an introduction to the subject he quotes THOMAS HOOD's well-known poem commencing—

"I will not have the mad Clytie,"

and ending—

"But I will plight with the dainty Rose,
For fairest of all is she."

How our author's heart was won may be learned from his own words: "There has always been a warm place in my heart for the Tea Rose, for, *sub rosa*, let me confess it, this was my first love (I fear no conjugal jealousy or censure in making this confession); a bed of Tea Roses planted near my father's house first won me as a devotee to the Rose, and by foliage and flower I learned to distinguish varieties among them before I even knew the names in other classes."

Only one sentence in the book gives rise to the least suspicion that his is not a genuine *affaire du cœur*, and that is when he says of the Sweet Briar, "It is almost needless to remark that the pink flowers, which are single, possess interest only for the botanist or artist." But we forbear to make this charge.

A few quotations will show the intimate knowledge the author has of his subject,

and the practical character of the book. Speaking of the Solfaterre Rose, he says: "It makes the best stock on which to bud Teas, or hybrids from the Teas, of any that I am acquainted with, surpassing that excellent stock and parent variety, Lamarque. I should advise all persons who wish to grow Tea Roses under glass, planted in borders, to put out plants of Solfaterre, and on these, after they have made sufficient growth, to bud all but the vigorous-growing Teas. Marechal Neil and all the Gloire de Dijon type of Teas are improved by being worked on this stock. Being much less hardy than the common Briar, it would not be so good a foster-parent for the Teas which are

fall of the year at all unless specially pruned and treated. Those which are of moderate growth require rich soil and close pruning; such are Hermosa, Queen of Bourbons, Souvenir de Malmaison, and the new Queen of Bedders, all excellent varieties worthy a place in a small collection."

In the account of the new class known as Hybrid Teas, the wide differences that exist among the varieties, and the comparative worthlessness of some of them is pointed out, and there are found the following sound remarks: "Certain ones among them, as La France, Duchess of Connaught, and Viscountess Falmouth, combine beautiful flowers with great pro-



worked out of doors, but under glass I know of nothing equal to it."

In relation to the China Roses, among other remarks, we find the following: "They are not hardy, and have no fragrance, but in spite of this are a very valuable group on account of the profusion of crimson buds which are furnished by such sorts as Agrippina. A bed of Agrippina on a lawn is a most desirable thing; none of the other crimsons are quite equal to this old sort, from whatever point of view they be considered." Of the Bourbons it is said: "But it must not be overlooked that many Bourbon Roses are also shy autumnals, though mention of this is seldom made in any of the catalogues, and the impression is therefore general that all Bourbon Roses produce flowers freely in the autumn. There are several well-known sorts, like Dupetit-Thouars, Sir J. Paxton, etc., that will not produce flowers in the

fusion of bloom and intense fragrance; such are the kinds that give value to the class, and unless raisers can supply new varieties in the group which combine these three qualities, they should be held as unfit to send out."

The Perpetual Moss is summed up with three varieties: "There are but three sorts which we consider worth growing. Many worthless varieties in the class have been sent out; if the flowers were of fair quality, they were so seldom seen after the first of June as to belie their name. Mme. Edward Ory and Salet both give mossy buds that are not equal in quality to other Mosses, but give them at a time of the year when the others are not to be had, and are, therefore, very useful. Souper-et-Notting is not encumbered with a superfluity of moss, if it is with a name, but we have here a large rose-colored sort, very full, of fine form, and a strong, delightful perfume that may keep one

sniffing for a long time before he can go away satisfied. Our eyes may brighten at the sight of other autumnal Roses more beautiful than this, but there are few sorts so grateful to that other important sense—smell. With oh! and with ah! and sundry other relevant remarks, we may gloat over this Rose, as does the street Arab inspecting the pies and confections in the window of a pastry-shop."

Our readers may desire more extended extracts, but these our space will not admit. There are valuable chapters on such important topics as the winter protection of plants, position and soil, planting and pruning, manures, insects and diseases, propagation, exhibiting Roses, varieties for special purposes, raising new varieties, and many others.

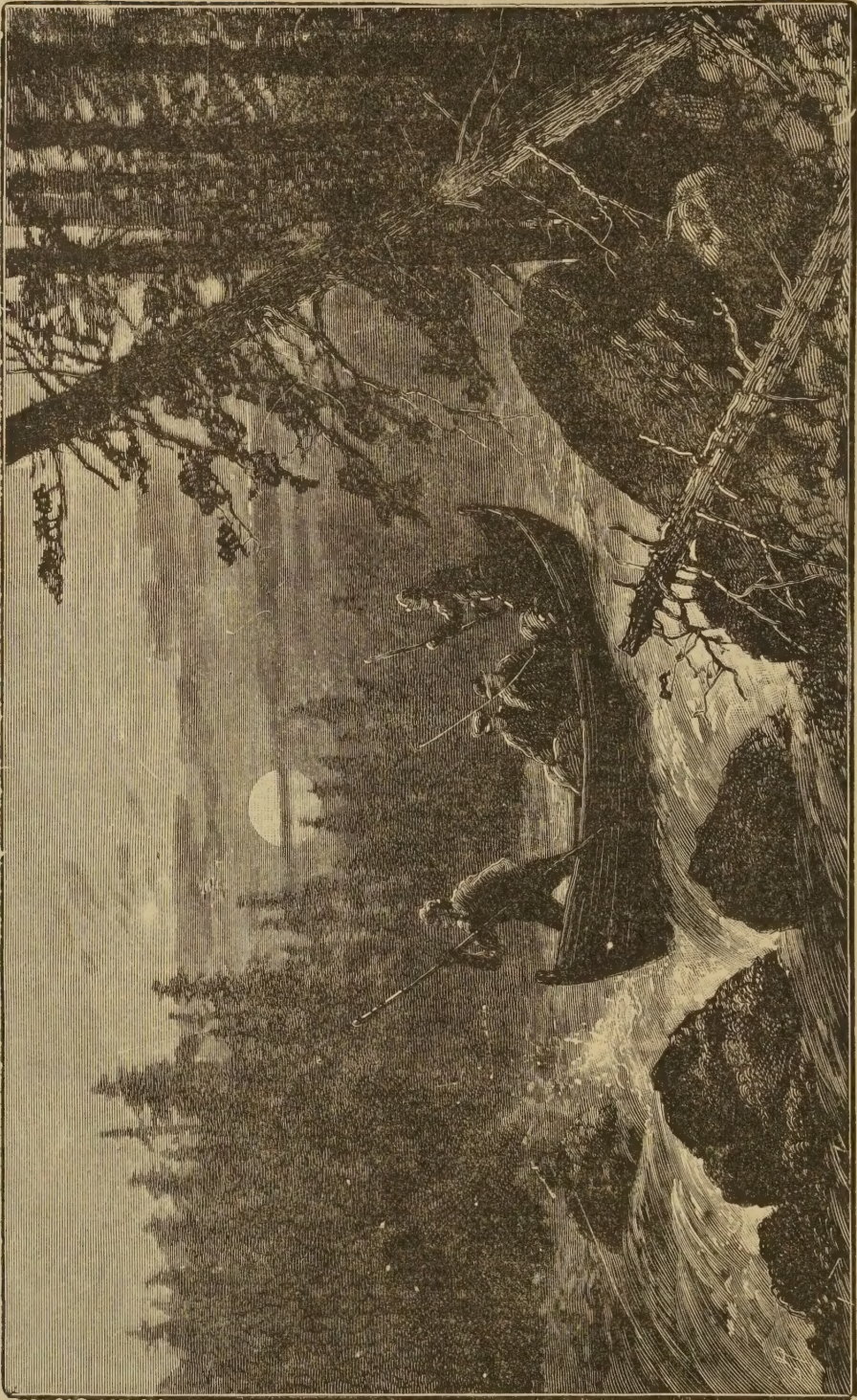
A special feature of the book is a list of all the sorts, or varieties of Roses now in general cultivation, giving a description of each variety, with the name of its originator, if possible, and the time of its introduction, and its parentage when known. This information will probably prove of much value practically, and something that is not to be found in any other work on the Rose. In a small compass there is embodied in this volume a great amount of useful information about Roses; the merits of different varieties are carefully discriminated, and their bad as well as good points are noticed; and, altogether, the work may be accepted as wholly reliable for the rose-cultivators of this country.

LAND OF THE MIDNIGHT SUN.

Spring, summer, autumn, and winter are seasons in compliance with whose demands we regulate all our operations in the garden and field, and the results of these operations are so great as to control trade and commerce, which move in conformity to them, and, so, nearly all the industries of mankind correspond in their activities to the movement of the earth around its center of light and heat. In the tropics, where the variation through the whole year of the angle at which the sun's rays strike the earth is slight, a continuous summer attends, and the days and nights are nearly equal at all times. There the sun sets and it is night, darkness falls rapidly over the whole landscape; it rises and it is day, for the morn-

ing light spreads quickly, and the long, lingering twilights of higher latitudes are unknown. One can scarcely take a day's ride by railroad without finding his watch to need resetting, and thus, whether traveling east or west, north or south, the idea is forced upon one that he lives upon a planet that is constantly in rapid motion; the habitual traveler is daily apprised by the sun of his change of position, and notices its movements with no less unfailing regularity than we regard the changes of winds and clouds and all those phenomena that constitute the weather. It is not strange, therefore, that one who had traveled in many climes should regard with intense interest the solar exhibitions within the Arctic circle. The famous traveler, DU CHAILLU, who has fascinated us with his accounts of tropical Africa, has recounted in the most vivid manner, in a work issued a few months since, entitled *The Land of the Midnight Sun*, the varied scenes of nature and of domestic life in Scandinavia, both within and without the Arctic circle. A sojourn of nearly five years in a country, an acquaintance with its language and literature, and an intimate knowledge of its people should be a preparation, as it has been in the case of this charming writer, for explicit and authoritative statement. The features of Norway and Sweden are so peculiar and so interesting we desire our readers should catch a glimpse of them in our pages, though a satisfactory knowledge of them can only be had by a full perusal of the fascinating work mentioned.

"There is a beautiful country far away towards the icy north. It is a glorious land; with snowy, bold, and magnificent mountains; deep, narrow, and well-wooded valleys; bleak plateaux and slopes, wild ravines, clear and picturesque lakes, immense forests of Birch and Pine, and Fir trees, the solitude of which seems to soothe the restless spirit of man; large and superb glaciers, unrivalled elsewhere in Europe for size; arms of the sea, called fjords, of extreme beauty, reaching far inland in the midst of grand scenery; numbers of rivulets, whose crystal waters vary in shade and color as the rays of the sun strike upon them on their journey towards the ocean, tumbling in countless cascades and rapids, filling the air with the music of their fall; rivers and streams



DESCENDING THE ALTEN RIVER.

which, in their hurried course from the heights above to the chasm below, plunge in grand water-falls, so beautiful, white, and chaste, that the beholder never tires of looking at them; they appear like an enchanting vision before him, in the reality of which he can hardly believe.

“There are also many exquisite sylvan

landscapes, so quiet, so picturesque, by the sea and lakes, by the hills and the mountain-sides, by the rivers and in the glades, that one delights to linger among them. Large and small tracts of cultivated land or fruitful glens, and valleys bounded by woods or rocks, with farm-houses and cottages, around which fair-



REINDEER DIGGING IN THE SNOW.

haired children play, present a striking picture of contentment.

"From the last days of May to the end of July, in the northern part of this land, the sun shines day and night upon its mountains, fjords, rivers, lakes, forests, valleys, towns, villages, hamlets, fields, and farms; and thus Sweden and Norway may be called 'The Land of the Midnight Sun.' During this period of continuous daylight the stars are never seen, the moon appears pale, and sheds no light upon the earth. Summer is short, giving just time enough for the wild flowers to grow, to bloom and to fade away, and barely time for the husbandman to collect his harvest, which, however, is sometimes nipped by a summer frost. A few weeks after the midnight sun has passed the hours of sunshine shorten rapidly, and by the middle of August the air becomes chilly and the nights colder, although during the day the sun is warm."

The course the traveler had planned for himself was to proceed at once to the north and visit the region within the Arctic circle during the short summer. Soon after his arrival in Stockholm, early in June, and as soon as a few acquaintances had been made, he therefore made preparation to extend his journey towards the north pole. By consulting a map of Europe, one may find at the head of the

Gulf of Bothnia, which separates Sweden from Russia, a town called Haparanda.

"During the summer months comfortable steamers leave Stockholm weekly for that part of Sweden, stopping at different points. By taking one of these boats, towards the 13th or 18th of June, the traveler can make a short and pleasant trip, and can enjoy the sight of the midnight sun without any exertion. The town is forty-one miles south of the Arctic circle, and forty-five miles further north is a hill called Avasaxa, which is 680 feet high; from this eminence, from the 22d to the 25 of June the midnight sun may be seen for three days; hence this is a favorite resort for tourists. The length of time that the sun appears above the horizon continuously depends upon the latitude; at the north pole sunlight bathes the face of the earth for six months and then for another six months it is in continuous darkness. The brilliancy of the splendid orb varies in intensity, like that of sunset and sunrise, according to the state of moisture of the atmosphere. One day it will be a deep red color, tinging everything with a roseate hue, and producing a drowsy effect. There are times when the changes in the color between sunset and sunrise might be compared to the variations of a charcoal fire, now burning with a fierce red glow, then fading away, and rekindling with brighter

appearance. There are days when the sun has a pale, whitish appearance, and when even it can be looked at for six or seven hours before midnight. As this hour approaches, the sun becomes less glaring, gradually changing into more brilliant shades as it dips towards the lowest point of its course. Its motion is very slow, and for quite awhile it apparently follows the line of the horizon, during which there seems to be a pause, as when the sun reaches noon. This is midnight. For a few minutes the glow of sunset mingles with that of sunrise, and one cannot tell which prevails; but soon the light becomes slowly and gradually more brilliant, announcing the birth of another day—and often before the hour has elapsed the sun becomes so dazzling that one cannot look at it with the naked eye."

The most northern point in Norway is North Cape, and this was the direct destination of the traveler, who now proceeded by stage, and by boat upon the streams, to that icy coast, accompanied by a guide called JOSEFSSON.

"The great charm of traveling in Scandinavia is by the regular stations, called *gastgivaeregard* in Sweden. The conveyance given to the traveler is a cart called *karra*, drawn by a single horse—a light vehicle, with only two wheels, the body and shafts continuous, and generally without springs, and with a seat large enough for two persons, and a moderate amount of luggage."

There are stations every few miles, where fresh horses and drivers are taken. "Most of the stations are farms, and at all of them food and lodging can be had; and many of them are exceedingly comfortable, especially on the high-roads which connect the towns or cities; but in remote or unfrequented districts the fare is very poor, and a stranger finds it hard to get accustomed to the diet.

"On the banks of some of the rivers are numerous farms and hamlets, often surrounded by fine meadows and fields of Rye, Oats, and Barley. Vegetation is wonderfully rapid under the influence of almost constant sunshine, seven or eight weeks only intervening between the sowing and the harvest.

"The journey from Haparanda to the Arctic sea is extremely interesting, both in summer and in winter, the distance in an

air-line being over five degrees of latitude to the most northern extremity of the land; but the route traversed to Cape Nordkyn and the Magero sound is about five hundred miles. The country is inhabited by Finns, who are cultivators of the soil. The Laplanders roam over the land with their herds of reindeer. The summer climate is delightful, and, during the period of continuous daylight, one can travel all night if he pleases. But there are great drawbacks: from the end of June to nearly the end of August the country is infested with swarms of mosquitoes, which are very annoying."

A great part of the distance is passed by boat on the rivers, the craft being manned by two boatmen. "People who have seen only muddy rivers can hardly realize the beauty of such clear streams as those of Scandinavia. The clearness of the water makes one thirsty, and often I could not resist the temptation to test its purity.

"Several miles were passed without seeing a house; occasionally the smoke among the trees marked a place where the people were making tar, which is manufactured in great quantities. In the latitude of 67° 30' a plateau was reached which was the dividing line for the outlets of the lakes towards the south and north; the Birch trees had become dwarfed, and the bend of their branches showed the force and direction of the winter winds."

From this point commenced their descent towards the Arctic ocean by land and stream, the Alten river being followed in its descent until it empties into the Alten fjord. "The river was as clear as crystal, and where the water was still, our boat seemed to glide on a bed of greenish glass. As we were carried northward rapid after rapid was passed, the boat quivering as it shot over the waves."

There is no part of our globe where vegetation is so thriving at so high a latitude as on the Alten fjord. "At the Kaa fjord, an arm of the Alten, and near Bosekop, Rhubarb, Barley, Oats, Rye, Turnips, and Potatoes grow well; Carrots attain a length of from five to seven inches; garden Strawberries ripen at the end of July or the beginning of August, if the season is a warm one; Currants thrive well, and the Blackberries mature

in one year out of three or four; Peas bear every year. I found these last from ten to fifteen inches high on the 10th of July, having been planted about four weeks, and ready to blossom. The grass is rich, and four gallons of milk yield, on an average, a pound of butter; Oats or Barley are harvested in nine or ten weeks after they are planted."

From Bosekop journey is made to Hammerfest by steamer along the sea coast. Hammerfest is in latitude $70^{\circ} 40'$, and is said to be the most northern town in the world. "The port is never closed by ice, for the gulf-stream laves the bleak and desolate coast, which at certain seasons of the year swarms with fish; if there were no fishing there would be no Hammerfest"

North Cape is an island a little to the northeast, and is reached by a small steamer. This island is an elevated plateau, "the greatest altitude being about 1700 feet above the sea; North Cape is its northern extremity. As we landed I saw thick green grass, dotted with Buttercups and Dandelions, and Forget-me-nots, with stems more than a foot long; the dwarf Birch and Willows were abundant, as, also, the Plantain, Plantago major. I had seen the last named plant everywhere in my journeyings in Scandinavia, but was surprised to find it so far north; I think there is no other which has a wider range of latitude; I found it common under the equator in Africa, it was flourishing at 71° north."

All through the cold countries Lichens grow in great luxuriance and, as most of our readers know, one species of these, *Cenomyce rangiferina*, is the principal food of the reindeer. "I saw several eating bread and hay, but their principal food must be the Lichen. When I was traveling in summer I noticed that in the Finnish forests there are magnificent Lichens."

An illustration represents the reindeer digging in the snow. "The snow in the district was not very deep—not over four feet. Under that cover was buried the rich moss of which the reindeer is so fond. All except the younger ones were busy digging, first with one foot and then with the other; the holes gradually became larger and the bodies of the animals were more and more hidden; they would not stop until they had reached the moss."

THE KITCHEN GARDEN.

A good kitchen garden is a most satisfactory adjunct to a dwelling. No person should lack one who may have it. If it should be that the only place for a garden is low and damp, attention must be given to the drainage, for this is the foundation of all good horticultural and agricultural operations. Money or labor skillfully expended in tile or stone drains is better than bank deposits or investments in paying stocks. On new places where time does not admit of underdraining, a dry soil can be obtained by open drains; for temporary results these will prove useful, and may oftener be employed to advantage than they are. In the arid regions of the far-west these remarks may not be applicable, for there the first necessity is the means of irrigation.

The perfection of soil-conditions for vegetable raising would be a very deep, rich, mellow soil, well drained, with an unlimited supply of water to be used at discretion. In most parts of the country the rain-supply seldom fails to be sufficient for all needs; to be sure, there are seasons of drought, occasionally, of longer or shorter duration, but the actual damage to a well-cultivated garden at such times is very little, while a slothful gardener then often loses nearly all. In times of drought the advantage of a deep soil, or one that is mellow for two or three feet in depth, is manifest. The moisture rises by capillary attraction and supplies the roots of the plants, and this action is assisted by stirring the surface-soil; the hoe and the cultivator should be doubly active in times of drought. The effect of these operations is to expose a greater surface to the air, which takes up the moisture from the newly-exposed particles of soil, leaving them to be supplied afresh from beneath; thus a more active current of moisture from the subsoil to the surface is set in motion, and in this manner it may be maintained for a long time. Again, a compact, unbroken surface-soil in a time of drought becomes very dry and warm, and maintains its heat at night above the temperature of the cooled atmosphere. In this condition it is evident that it cannot absorb moisture from the air, and which is rapidly appropriated as dew by the cooler, well-cultivated surface.



THE IRIS.

Orchids are floral gems of the first water, and are distinguished for fantastic form, flamboyant colors, and gorgeously eccentric beauty. They may be termed the most aristocratic and, perhaps, in view of their ultra-refined habits, the most æsthetic race in the floral section of nature's vast domain. Coming from distant tropical lands, they are also costly and rare, and to possess a varied collection is a privilege enjoyed exclusively by persons of ample means. Their successful culture calls forth the complicated art of skilful gardeners, and necessitates the erection of expensive structures, hence it may be seen that they are luxuries of a somewhat costly character; yet, strange to say, flowers allied to these rare exotics, and rivalling them in gorgeous beauty, may, at trifling cost, adorn the humblest cottage garden, and their culture will involve neither delicate care, lavish outlay, nor intricate art. We refer to the Iris, a lovely, hardy border flower, richly deserving far more attention than it receives. While this latter fact is to be regretted, yet it certainly cannot be attributed to the lack of merit, but rather that the diversified beauty, and boundless capability of attractive display, are little known to the general public. The superb tripetaloid form, characteristic of the family is most admirably adapted to effectively set forth the endless wealth of brilliant colors, which, with the robust habits of the leading species, should secure for them the warm appreciation of a flower-loving public. The genus is divided into numerous species, and these are subdivided into varieties without end. The number of tribes is annually increasing, through the discoveries of travelers and botanists sent out to distant lands. Siberia, Hindostan, Cashmere, Cape of

Good Hope, Japan, California, Labrador, Patagonia, and, in fact, nearly every known portion of the globe, furnishes its contingent to swell the general list, sending fresh species with a dower of beauty, sturdy habits, and distinctive characteristics. The species which most demand our attention here, and which cannot be too thoroughly disseminated, are the Spanish, English, and Japanese Iris.

The Hispanica, like the *Iris Anglica*, belongs to the genus *Xiphion*, or bulbous rooted, and is divided into three sections, the dwarf, medium, and tall, the last on the whole being better known and most desirable. Extensive dealers offer it in over two hundred named varieties, though mixed sorts will afford a wide range of color, and will be found very pleasing. The quaint and original form of these charming flowers is quite unique, while the colors are intense and brilliant, comprising countless shades of orange, blue, yellow, brown, purple, velvet, and white. It is especially rich in the loveliest conceivable shades of purest yellow, running up to dazzling golden orange, thence merging into velvety brown.

The *Iris Anglica* bears flowers considerably larger than the preceding sort, and the plant is of a more robust character. It blooms a little later, coming in in July with the Roses. The range of color being more limited, the number of named varieties is consequently less. This is an extremely lovely Orchid-like flower, and is very showy in blue, purple, lilac, white and exquisitely delicate tints of mauve. The shades of blue are quite beyond description, so intensely clear and vivid are they, while nothing can surpass the chaste and exquisite purity of a cross, or wreath, composed of white English Iris on a groundwork of feathery Ferns. Mixed sorts invariably give satisfaction, though

named sorts are generally sold at such very moderate prices that a dozen would make but a slight inroad on any purse, however light it might be, and would assure the agreeable certainty of possessing distinct varieties.

A grand and noble flower is the *Iris Germanica*, the named varieties of which are to be counted by hundreds. It presents a wonderful diversity of color, and the vigor of the plant is such that it adapts itself to any situation, thriving equally well in dry borders or on the margins of swampy tracts. The shades and colors embrace blue, purple, rose, yellow bronze, primrose, violet, crimson, and pure white. The complicated blendings of contrasting and harmonious shades would puzzle an artist beyond measure to reproduce, while over all is thrown a network of intricate veining, elaborately traced with that dainty deftness of finish and exquisite delicacy of detail not to be found except in nature's marvellous handiwork.

But the grandeur and the gorgeous attributes of the *Iris* family may be said to attain the highest type in the *Kämpferi* or Japanese branch. This is a more recent acquisition than the preceding sections, and since its introduction has displayed an extraordinary development of rich and lovely named varieties. These are constantly increasing, and, in Europe, novelties of merit often command the elevated price of ten and twelve dollars each, though attractive named specimens are to be procured at sums varying from two to five dollars per dozen, while mixed sorts without names are still cheaper. The immense blooms, double and single, often eight inches in diameter, are produced in shades and colors of exceeding brilliancy, among which may be found blue, salmon, maroon, brown, rose, yellow, orange, purple, black, and white. These vivid hues are intermingled, as in the other tribes, and are strikingly displayed by the bold and crested form which this magnificent flower assumes. The massive splendor of the double, and the airy gothic grace of the single varieties are qualities so admirable and conspicuous that they seldom fail to attract the attention of the most superficial observer, and render the *Iris* one of the most showy acquisitions to our list of hardy border flowers that has appeared for years.

Other members of this family are equally distinguished for great beauty frequently displayed in the most original and fantastic forms. The dwarf *Iris*, I believe, bears immense flowers six and seven inches in length and four in breadth, satiny-white, with dark lower petals. *I. Iberica insignis* is still more striking, with erect banner-like sepals, lilac-spotted and broad drooping petals, blotched with reddish-brown. *Reticulata* is worthy of note, as also *Susiana*, and the varieties of *Siberica*, *alba*, *purpurea splendens*, *Ariel*, and *virginalis*. On the whole, no other class of flowers can so triumphantly sustain the ordeal of close inspection as the *Iris*, and such scrutiny only intensifies their countless charms by revealing fresh beauties of a design so gracefully elaborate, a delicacy so fairy-like, and an execution so absolutely and minutely perfect, that our wonder is equalled only by our delight and admiration; and, to conclude, it may be said that no other flowers furnish so large a quota of beauty for so small an outlay of money or care, and that they possess in a high degree desirable characteristics which should bring them into general favor.—F. LANCE.

COOL-HOUSE ORCHIDS.

It is commonly supposed that a collection of Orchids involves a large outlay of money in special buildings, the purchase of peculiar material, and the retention of a highly-skilled gardener. It is very true that a large and varied collection at all approaching completeness does require an amount of exact knowledge but rarely if ever met with. The range of the various species is often very limited, the conditions of life are so fixed as to seasons of rain and shine, and temperature, that no ordinary gardening author can as yet be expected to be able to compass the vast accumulation of facts necessary to a full understanding of the conditions necessary to the cultivation of so large and varied a natural order. Let the reader enter any collection, and there will nearly always be species in a languishing condition, both in the epiphytal and terrestrial class. In the present condition of orchidology this is almost unavoidable, and may remain so until cultivators learn the conditions applicable to individual genera and species. Take the genus

Euolophia for instance, one of the few that yield useful food, and produce the most beautiful flowers, rivalling the *Hyacinth* in perfume and beauty, and who owns a collection? One or two are sometimes introduced, and as often lost; again take *Renanthera coccinea*, and how many in this country have seen a specimen in bloom.

As a matter of fact, Epiphytal Orchids are often starved to death. Species which naturally require yards of roots to bring the plant to perfection are often confined to a little piece of wood, barely large

room than a pot of the same diameter, while it will contain ten—twenty times as many plants, and be ten to twenty times as effective. For the cheaper South American and Mexican Epiphytes, and the more common *Dendrobiums* this massing plan will be found the cheapest and most satisfactory that the grower can pursue, the more as it admits of transportation from one house to another—almost always necessary in the case of *Dendrobiums*. The conditions of an ordinary warm greenhouse will suit many of the cool-house Orchids which flourish



ODONTOGLOSSOM VEXILLARIUM.

enough to hold the plant. It is thus that many Epiphytes do better in pots, and look better. But, for private collections, large masses or large blocks should be more patronized; they are more natural, more effective, do much better, and are less trouble and expense, besides they occupy far less room. There is no comparison, for instance, between the effect of fifty or sixty little half-starved plants of *Sophranites* on separate little pieces of wood, and the same number massed upon a three or four feet length of *Locust* tree!

Robinia wood is as cheap and good as any for Orchid blocks, and should be peeled, as the bark harbors insects; a section from the trunk of a *Locust* of desirable size, rounded at top, and standing on its own base, will not occupy more

during winter, and the temperature of the same house from March to October may easily be maintained high enough for growth; in fact, too high for many of the mountain species, which would be better in a north or northeast house. Atmospheric moisture during the season of active growth Epiphytes require without stint, and they receive it in a state of nature to the point of saturation. But this is always provided in company with the most perfect provision for avoiding stagnation; the plants are seated on the stem, the rounded branch, or sometimes on the above-ground roots of a tree; sometimes again on the precipitous or shelving face of a rock, as occurs with many *Coelogynes* and *Cypripediums*. The latter look more natural and do well in well-drained pots.

The period of rest during which Epiphytes ripen and perfect their growth requires great care. I was one of the first to discuss the propriety of exposing Orchids to the full influence of the air after growth was complete, but very great discrimination is necessary in doing this; no indiscriminate turning out will do, and careful experiments will be needed to determine whether even such species as *Odontoglossum platyodon*, *O. nebulosum*, *CoeLOGYNE corrugata*, or *Ærides Lindleyana* can be trusted to make any portion of their growth fully exposed to the air, although the measures of heat are during the summer much higher than is ever experienced where they are indigenous, and where Corn or the Peach would not ripen. But when growth is complete they may be freely exposed, some of them to sun as well as air, with great benefit to their maturity.—J. MACPHERSON.

GLOXINIAS.

In reading the various floral publications of the day we rarely see any allusion to one of the most beautiful and satisfactory house plants, the Gloxinia. I think, however, the plant is becoming better known and appreciated, and when people once become acquainted with it and its merits, I predict for it a prominent place in the collections of amateurs, instead of occupying only the hot-houses of professional florists. Although classed among the stove-plants, it can be successfully grown in the atmosphere of the common living-room, asking for but little attention, and rewarding the giver with an abundance of its gorgeous blossoms for a long period. A strong bulb will sometimes put forth flowers for weeks in succession, and a single flower will often remain for five days or a week before falling. Some varieties flower in pairs, putting out a flower from the axil of each leaf; others, from growing in a more compact and short-jointed form, and from the fact that they produce several buds instead of one in the axil of the leaf, throw up a mass of flowers which look like a charming bouquet surrounded by the velvety-green leaves, the beauty of which is only excelled by that of the flowers themselves. Being too tender to bear exposure to the sun and wind, the Gloxinia is invaluable for beautifying the conservatory when the Geraniums and other hardy

house-plants have been removed to the garden or piazza. A little shade should be given from the direct rays of the sun, as the Gloxinia, although delighting in a warm atmosphere, often wilts under the heat of a burning summer sun. A north window, or any window where the sun shines only a portion of the day, will do admirably for it, as, like the Chinese Primrose, it requires light but not much sunshine. It is propagated both from seed and cuttings, but it is better for the amateur to procure strong bulbs from the florist, or to increase his stock from cuttings, than to attempt to raise the plants from the seed, which are quite fine, and require care in growing. The plants do not always flower the first season from the seed, unless grown in the moist atmosphere of the greenhouse.

There are three classes of Gloxinia, the upright, horizontal, and pendulous. The upright and pendulous kinds comprise flowers of many colors and markings, some of them rivalling the Lily in their glistening whiteness, others looking as if nature had painted them in royal colors of purple and crimson; some are light and dainty, others droop with the weight of their velvet robes. Many of the varieties are quite fragrant, which, in addition to their beauty of form and color and lovely foliage, renders them very desirable window plants.—MRS. LUNEY.

QUEER PLANTS.

MR. VICK:—While they are telling of "queer" plants I must describe one growing all about the lakes here, an unsuspecting-looking little thing, like a nest of crimson tongues, each covered with tiny cilia, and at the tip of each of these a tiny drop of—honey, I guess. You would never believe it was carnivorous, but some of these little tongue-like leaves we find folded over, curiously enough; if we unfold them we find the carcass of an ant, or gnat, or some other insect. I mean to study it more closely and see what becomes of this prey, whether the plant assimilates it or not, and perhaps I can paint one for you. It is not remarkably pretty; the little wonder is very bright and nice when the sun shines on it.

This is indeed the Land of Flowers. The roadsides are white with a little four-pointed star, and along the brooks and

lakes the beautiful little white Violet grows in profusion. In the woods the large dark-blue Violets and myriads of handsome Ferns are now to be found, and along the "bayheads" the fragrant yellow Jasmine climbs amid Bay and Magnolia branches; I look for a feast when the Magnolias bloom.

You have heard of the rare fragrance of the Orange blossom, but the half has not been told! One cannot conceive of the loveliness of an Orange grove in bloom until he has seen and smelled it. Great golden butterflies flit and hover and fly away from blossom to blossom, to make room for peacock-wings and common moths! Mocking-birds nearly split their precious throats trying to tell their welcome to the early springtime! While Orange and Lemon blooms are fragrant and simply elegant, the Banana and Pine-apple blooms are not less interesting because so odd.

I wish you could see the waxen Water Lily buds it was my pleasure to have to copy; my friends say the Orange blossoms I painted only lack the perfume, and as the Pond Lily is not fragrant, I think it a success. It is so pleasant to have the natural flowers to copy, and there is not a day in the year but plenty of them can be had fresh from the woodland. Besides, there are the wonderful Roses that are grown in the gardens; last summer I saw a branch of white Roses with twenty-six full-blown flowers and forty-eight buds on one stem.

Oh, the Jasmines! but they hide now while the Oranges blossom. The Royal Poinciana, the Poinsettia, with its scarlet bracts, and, oh! all sorts of Honeysuckles and hot-house plants, all blossom here all winter long in the open air. Do take a trip down here, for I can never describe all the floral wonders and beauties all about us, or begin to tell of this well-nigh perfect climate. You must have an Orange grove, and then you will have an excuse to come here. We have a lot set out with Orange trees and Pineapples, and a fine little kitchen garden. Tomatoes I transplanted since New Years have fruit now (March 4,) as large as a hickory nut and blooms in profusion. After the rainy season begins I shall want flower-seeds, &c. This rainy season consists in a nice shower almost every day—often out of a clear sky, sometimes with "don-

ner and blitzen." These showers and the lovely sea and gulf breezes make the climate what it is. But you must come to Florida. I wrote you last from Iowa. I assure you I never want to experience another blizzard when I can live in this climate and have my bay-window out in the yard all the year around.—EILLEN, *Orlando, Fla.*

THE NORTHERN WOODS.

MR. VICK:—Your correspondent, "B. A. T." would like some Northern readers to tell about the woods. From my window I can see quite an extent of bush clothing the hillsides, here and there a Hemlock lifts its dark and stately head from the bare branches that form a misty cloud around, and through which the snowy ground shows faintly. This winter has been very mild, and one could walk in the woods, but there is not much to see, a few Partridge berries or the fronds of last year's Ferns and moss, while an inquisitive chipmunk sits on a log chattering at you, and squirrels run up and down the trees, and woodpeckers can be seen and heard pecking away for the larvæ which form their food.

But wait a while till April showers and May sunshine has awakened the sleeping beauties, first the Hepatica lifts its dainty head, pale-pink, and blue, and purple, nor waits for a leaf to shelter it, then white and delicate feathery flowers for which I know no name save Fairy Bells, next the white wind flowers, the pure petals curved back like a Lily, as graceful as any Calla. The tree buds swell, the leaves stretch forth to woo the gentle breeze, beautiful Ferns, May Apples with their waxy blooms, pale blue Phlox, tall daisy-like flowers, wild Geranium, Bachelor's Button, and, near springs, the wild Balsam delights the heart of the lover of wild-wood treasures. These flowers, although they may not be as showy as those that southern climes can produce, yet they have a quiet grace of their own that always leads me to cherish my wild bouquet.—E. R., *Walkerton, Ont.*

NASTURTIUM IN CALIFORNIA.—It is a curious little fact that Nasturtiums do not mature seed in this climate. The Petunias, and Larkspurs, and Sweet Alyssum, &c., live out all winter and scatter their seed everywhere.—E. A. C., *Visalia, Cal.*

MARANTA ZEBRINA.

The *Maranta zebrina*, or *Calathea zebrina* of some botanists, is one of our oldest and best known ornamental-foliage plants. It is a native of Brazil, whence it was introduced in 1815. It is an ever-green stove or hot-house plant of great beauty, growing from two to three feet in height. It is much admired on account of its singularly striped foliage, and on this account it is an excellent exhibition plant. The leaves are from one to three feet in length when well grown, of a purple underneath, while above they are beautifully and regularly striped with dark velvet. The flowers are rather peculiar, but of little beauty, and are produced in dense ovate heads, somewhat

not let the leaves rest or lie upon any thing."

Maranta zebrina is a plant of comparatively easy culture, requiring good drainage, a compost composed of two-thirds well-rotted sods, a little more than one-third well-rotted manure, or leaf-mold, and when growing, which is during the spring and summer months, a warm, moist atmosphere, a temperature of 50° to 65°, and an abundant supply of water. After its season of growth is over it will do well in a lower temperature, 50° or 55°, and it will not require so much water, but care must be taken to prevent it from becoming absolutely dry. When grown in the window-garden the leaves of the plant should be sponged at least once a



resembling a small pine-cone, the flower-stalks being very much shorter than the leaves. This species is one of the most popular of all the *Marantas*, and, with the exception of *M. pulchella*, the only one suitable for cultivation in the window-garden. A writer in speaking of the *Marantas* as decorative plants, says: "This is the only one suitable for steady cultivation in apartments, as all the others succumb to the hot and dry atmosphere inseparably found in living-rooms. Another great difficulty in the use of the *Maranta* is too great eagerness to display it in the window; the leaves, being large, reach out and touch the window-pane, when, cooled with the touch, they become at once of sickly appearance, turn yellow, and are greatly disfigured. They must be kept away from all cool winter air, and thrive best in a hot, moist location. Do

week with clean water, to remove dust and insects.

Propagation is effected by division of the plant; this operation is best performed in the spring, or just before the plant starts into growth, due care being taken not to injure the fleshy roots.

The generic name was given in honor of B. MARANTI, a Venitian botanist, and the specific name, in allusion to its singularly striped foliage. When grown in the greenhouse the *Maranta* is perfectly free from all insects, but in the window-garden it is subject to scale-insects; these should be removed the instant they are noticed, with a piece of sponge.—C. E. PARNELL, *Queens, L. I.*

ON THE 20th of March *Epigæa repens* was found in bloom here, but not freely until nearly a month later.—S., *Rochester.*

WINDOW GARDENING.

MR. JAMES VICK:—The meek Hepatica the first warm April day sends out her little flower, and as it rests its cheek against a brown leaf, it looks up as if saying to the heavens, "I have trusted you, do not harm me." Dearest flower of my childhood, the harbinger of every year, endeared by all the memories of life's morning, it will be long before it has a rival in my heart.

We grew one of these plants in the window the past winter, where it bloomed well, and it was cheery to meet its bright face on a January morning. And now I wonder how many know how much enjoyment a window full of plants may give? Autumn has lost half its sadness when we can shut summer in-door from November to May. Ours came about through those bewitching pictures of window conservatories that have appeared in the *MAGAZINE*. After various consultations we decided that what had been done could be done again, and, accordingly, a southern bay-window was fittingly arranged, and the *MAGAZINE* searched through several volumes to learn what plants to order, and how to treat them. The result was a happy family of flowers, representing many distant countries, and another happy family admiring them. The experiment was entirely satisfactory, although an occasional failure served to keep a spirit of humility. Indeed it is hard to see how one can go amiss with the instruction that may be had. Still, some of the directions we find very difficult to follow. There is that advice with which a period is so finely rounded, that under certain conditions "water must be withheld." Now, there are cases, I am convinced, where it cannot be done. To illustrate, our Smilax behaved in all respects as indicated, and was our pride. After its period of growth it began to hang out its colored signs, and we said "water must be gradually withheld." So it was given a lower place and its rations carefully measured. As I am something of an æsthete, my especial enjoyment was in lounging on the opposite side of the room, and dividing my attention by admiring the plants and studying the various and graceful attitudes assumed by my wife as, poised on one foot on a step-ladder subject to sudden evolutions, she managed to water the more distant pots.

But one busy morning she entreated me to assume her part. This I willingly did, as I cherished a secret idea that some of the attitudes could be improved upon. Things progressed favorably until I had replenished the watering can for the third time, and with my head thrust between two hanging baskets, and the friendly branch of a Geranium feeling down my spine, I was executing some of the more difficult maneuvers when I became aware that my step-ladder was taken in a fit. How I reached the floor I never knew, but when I retired for observation there was my watering-can reversed just where "water must be gradually withheld," and my poor Smilax resembled Venus rising from the sea. When will florists appreciate the force of circumstances and temper their advice accordingly!—S. M. G., M. D., *Danbury, Conn.*

LADIES AND HORTICULTURE.

MR. VICK:—We had been trying for several years to induce our Township Agricultural Society, which holds its exhibitions here, to include horticulture in its objects, and offer prizes for flowers, but were not successful till two years ago, when a few prizes for flowers were included in the list, and in consequence the exhibition was much better than it had previously been. Last year many new members joined in expectation that the horticultural branch would be retained. Think of our disappointment and surprise when the prize list was issued last September to find that not a single prize was offered for flowers, and that even the prizes for fruits and vegetables had been curtailed, because some of our old foggy friends thought it a waste of money to offer prizes for flowers! Not to be extinguished in such a way as that, some of our ladies, with the assistance of their husbands, determined upon establishing a horticultural society and holding a show of our own. Accordingly we opened a subscription list, and in a short time had some eighty members. We then issued a prize list of about \$150, including fruits, flowers, vegetables, and fancy work. Our means were small, and, of course, we had to make our prizes correspond, and in about a fortnight after our first movement in the matter we held our first exhibition, which was held open for two days, having the town band each evening, and charg-

ing an admission fee of ten cents. It was the unanimous verdict that it was the largest and best show that had ever been held here, and the financial result was equally satisfactory, as, after paying prizes and all expenses we had a balance of \$20 to carry forward to this year.

We are now properly organized under the statute, and are determined to continue the success which attended our first exhibition. We intend holding a summer exhibition in July next, and also a fall exhibition about the first week in September. We are now busy canvassing for new subscribers, and for special prizes.

I send you this account of our efforts trusting that our example may induce others to do likewise.—Mrs. B., *Meaford, Ontario*.

THE FARMER'S DOOR-YARD.

One of the most hopeful signs of the times is the growing intelligence of the farmer. So say wise men. He is a dull farmer, indeed, now, that does not know something of the best fertilizers, improved farm implements, blooded stock, &c. It is not uncommon to see farms of many acres with fences in repair, fields of golden grain, and "barns bursting with plenty," with Polands and Berkshires grunting on beds of clean straw, Jerseys and Shorthorns up to their knees in grass, tender, succulent, and green as Erin; Cotswolds and Southdowns chewing the cud on the hillsides, Normans and Clydesdales turning up the fresh brown earth, and the cultivator, the reaper, and the mower ready for use. Behold the doorway of this same farm! A change comes over the spirit of our dreams. The thrift and neatness that prevailed about the barns and fields does not extend to this portion of the domain. There is very little attempt here to beautify with flowers, or vines, or shrubbery. There may be, perhaps, a few who know nothing of these ornaments. This is to be deplored, as there are so many hardy shrubs, and vines, and bulbs that would be ornamental in such places, and require very little care. How beautiful a Jackmanii Clematis or a Japanese Honeysuckle would be trained about the porch. There are pretty shrubs that could be used as screens, or fill up a corner here and there, that almost take care of themselves. The gay Tulip and the fragrant Hyacinth only ask

to be tucked away in a rich, mellow bed in autumn, with a promise to pay in the spring that is as good as old wheat. The modest Lily of the Valley, the delicate Day Lily, and the familiar Bleeding Heart come to stay, and it takes a good deal of ill-usage to get rid of them.

These things, so simple and yet so beautiful, are not only a constant pleasure to the children while growing up on the farm, but their fragrance comes to them in after years, when their feet are weary, far from the old homestead. We never forget the sweet old-fashioned Pinks that bordered the walk, or the June Roses we gathered by the door-sill, or the fragrance of the Sweet Briar at the chamber window.

The yard may still be made attractive without any of these things, for the grass, the sweet, clean grass, the natural covering of the ground, is always with us, and with a little care, vies in beauty with tree and vine and flower.

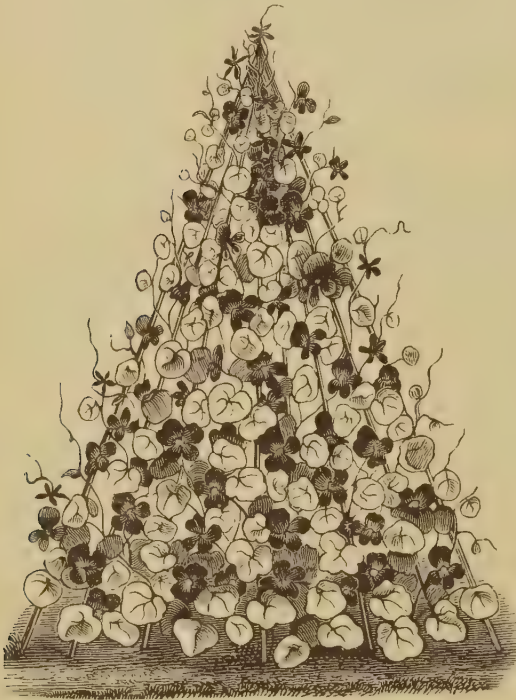
We are a progressive people, and I have faith that in the future, not far distant, these waste places shall be made glad, and these deserts shall blossom as the Rose.—AUNT FANNY, *Morningside*.

THE TROPÆOLUM.

MR. EDITOR:—The climbing Nasturtiums have always been favorites of mine on account of beauty of both leaf and flower, the bright semi-transparent leaves forming a beautiful setting to the brilliant flowers, which are of every tint except blue. The markings, or pencillings, are bold, yet delicate and feathery. Perhaps, however, my love for these flowers is largely the fruit of early associations. Nearly a score of years ago, in the garden of my home, in Fatherland, Nasturtiums grew every season, and were carefully tended by loved ones who will care for flowers no more, and admired by bright, glowing eyes whose lustre has many times since been dimmed with tears. They, therefore, make my garden seem home-like, and revive many pleasant memories.

I grow Nasturtiums on trellises and single poles, and sometimes make a kind of pyramid by placing six or eight poles in a circle some four feet in diameter, fastening them together at the top, something like an Indian tent, while with these

and Morning Glories I cover every spot of fence or out-buildings, and several little rustic arbors. My cultivated ground is only a small village lot, where I spend many very pleasant morning and evening hours as a relaxation from business cares. Perhaps in my practice I have learned something about the nature of the *Nasturtium* and its best treatment that may be of interest to your readers. When first commencing their culture in this country I was surprised to find such a scarcity of flowers, and especially so of seed-pods, for not half of the flowers produced seed. I thought this might be caused by the excessive heat and dryness of the summers, so commenced to grow them in somewhat shaded places with northern exposures. This did better, but it was not always convenient to give them such situations, or rather I wanted them at other places, so I tried digging the soil deep and heavy mulching, with an occasional soaking in the driest times, and the result has been eminently satisfactory.



I have now flowers and seed-pods, and I think when the ladies know what a delicious pickle the tender seed-pods make, this beautiful climber will be grown more generally, over the Northern States at least.

Some of the most hardy and common varieties bear more seed than more ten-

der and better kinds, and having saved my own seed without much care, picking all that was allowed to ripen, my assortment of colors had become somewhat re-



stricted. In the spring I obtained of you an ounce of seed of mixed colors, and they truly were mixed. It did not seem as though I had half-a-dozen plants alike out of the whole. I send you a bouquet of about twenty pretty distinct colors, and though you may not think it wise to give a colored plate of so common a flower, I do think it would make a very handsome one, quite as good looking as could be made from very many of the more aristocratic members of the floral family. You will notice among the collection one or two Canary Flowers. I believe I had but two plants of these, and think they are not usually furnished with the ordinary *Nasturtium*.—J. M.

It is not our intention or custom, as our correspondent seems to intimate, to give colored plates of only rare and costly flowers, for in recent numbers we have presented splendid representations of Asters, Balsams, and other beautiful yet common flowers, and may yet astonish our readers with the gay Sunflower. The æsthetic craze, as it is called, has taught the people to see and appreciate the world of beauty with which we are surrounded.

With the above communication we received a collection of *Nasturtium* flowers, consisting of at least twenty pretty, distinct varieties, and from these a few were selected for a colored plate, which with this number we present to our readers. The *Nasturtiums* are much more freely grown in Europe than here, especially in England.





THE DATURAS IN JAVA.

Most people know something of the *Datura* by acquaintance with the Jamestown Weed, *D. stramonium*, while others have admired the showy flowers of some of the varieties cultivated for ornament. That these plants are poisonous, or narcotic, like Tobacco, is generally known. Here is something of what a resident of Java, writing to the *Revue Horticole*, says in regard to them in that island. "Among the plants of our gardens and of our fields, the *Daturas* are certainly not the least beautiful. Their bloom is continuous, and they flourish without interruption, as well in the greatest droughts as during the heaviest rains."

The cultivation of the *Datura*, the writer states, is increasing. The leaves of several species are employed in medicine in cases of rheumatism and asthma, as for the last disease they are also sometimes used in this country and in Europe.

"The seeds are also employed," he says, "to preserve freshness and beauty; but a continuous use of them is injurious. A light dose taken to preserve the appearance of youth, will at length, it is said, produce foolishness. In order to give strength to poor kinds of Tobacco recourse is also had to *Datura* seeds. This is the process: They take a certain quantity of the seeds and boil them with sugar and pepper. When the syrup has boiled to a proper strength they sprinkle the Tobacco with it."

Our authority very carefully states that only the Tobacco used for home consumption is thus prepared. He further says that robbers make a nefarious use of the seeds. "In order to plunge their victims into a profound sleep, robbers blow the fumes of the *Datura* seed, by means of a slender tube of Bamboo, into the sleeper's room, as near to him as possi-

ble, and this is very easily done, since the dwellings are constructed of bamboos, with interstices between them which permit the easy introduction of the injector's tube."

ORCHIDS AND INSECTS.

We have so great a variety of Orchids growing in many parts of this country, it would not be difficult for some, at least, of our readers to verify the observations of DARWIN upon the fertilization of these interesting flowers by insects. A writer in *Gardening Illustrated* records his observation of the performance of this operation by a bee upon a flower of *Orchis mascula*, one of the native English Orchids. He says: "The flower of the *Orchis* is the most wonderful part of the plant, containing, as it does, the most extraordinary apparatus for fertilization that it is possible to imagine. Now that attention has been drawn to the matter nothing seems more likely; but it took the genius of DARWIN and the patience of DARWIN to make the discovery, and we advise our readers to lose no time in obtaining his interesting book on Orchids, and with it to prosecute their own investigations this spring. We here quote what is said: 'Supposing a bee alights on the labellum, which forms a convenient landing-place, and pushes its head into the little yawning throat of the flower, so as to reach the honey in the nectary with its proboscis, it is scarcely possible, owing to the shape of the flower and its nicely-adjusted balance, not to touch the rostellum. Directly it is touched a viscid drop exudes, which sets hard and fast like cement, and when the bee withdraws its head, the pollinium is firmly attached. Then the insect flies off to another flower, and behold, instead of the pollinium remaining erect in thirty seconds the viscid

disc has dried, thereby causing the pollinium to sweep through an arc of nearly 90° in the direction of the apex of the proboscis, until it assumes a horizontal position and is ready to exactly touch the stigma.' On reading this for the first time no little credence is required to accept it; but let the reader observe for himself, and he will be lost in admiration of man, plant, and insect. On May 5, 1881, at 10:15 A. M., this was witnessed by us with extreme satisfaction. A small black and red bumble-bee settled on the labellum of an Orchis we were studying, foraged in the nectary of the lowest flower, and withdrew with two pollinia adhering to its forehead. It then proceeded to visit the other flowers on the spike, and we could not but remark the excellence of the spiral arrangement of the flower, and delicate balance obtained by the twisting of the ovary. When half-way up the spike we saw four pollinia on its forehead, two erect and two horizontal. One of these was left on a stigma, and the bee flew off with the other three."

It is not impossible that a keen observer should be rewarded for patient waiting and watching beside some of these flowers by seeing something that would add materially to our knowledge in regard to insect fertilization.

CULTURE OF ORANGES.

The inhabitants of St. Michael live to a very considerable extent on Oranges, which are the principal product of their island. BORD mentions a curious display of epicurism among the upper classes there. He says they eat only that side of the Orange which has been most exposed to the sun, and which in fresh fruit is quite as easily distinguishable as in our Apple. The trees here are said to be wonderfully prolific. They are propagated from layers bent down and covered with earth until they form a few rootlets, when they are separated from the parent tree and set in small plantations. So delicate is the Orange tree, however, that though the temperature of St. Michael never ranges farther than from about 50° to 75° Fahr., these offsets have to be planted in little hollows some three feet deep and surrounded by Firs and shrubs, and a pile of loose pieces of rock with which the soil abounds. Thus protected they soon become stout young trees, and are removed

to the positions they are destined to occupy permanently. In this genial climate it is said they attain a good fruiting condition in seven or eight years, whereas in most European Orange gardens from sixteen to twenty years are required for young trees to attain the same stage. And not only do they bear very early but the crops are sometimes enormous. It is said that a single tree has been known to bear 26,000 Oranges when at its prime. In Spain and Portugal 3,000 to 4,000 are considered satisfactory crops.—*Leisure Hour*.

DESTRUCTION OF WIREWORM.

A writer in *The Garden* says: "On entering a situation in the north I was informed that Carrots could not be grown in the locality. The first year I sowed in the ordinary way, and found the crop quite eaten up with wireworm. The second year I half-filled the drills with soil from the potting-bench and sowed the seed, covering it with the same material. After the plants were well up and thinned, on the approach of a shower I gave them a slight sprinkling of nitrate of soda (this was applied many times during the season), and by this means I obtained a first-rate crop of roots, while my neighbors could scarcely dig a sound one. I would advise those adopting the use of nitrate of soda to be most careful in its application. I have employed it for most kitchen garden crops, and have found it to be very beneficial if used carefully."

STRAW SHELTERS.

The value of these useful articles for covering frames is understood by many of our readers. The method of making them here described, by a correspondent of the *Journal of Horticulture*, we have not before seen stated. "We twist a straw band the required length and thickness, and lay it on a bench and tie twine about nine inches apart, tightly, the length of the band, leaving the ends long at each tie; then draw the straw out straight and lay it evenly between the twine and tie tightly, drawing close to the band; then lay more straw between the twine, and tie tightly as before, and so on till you have the required width, taking care to keep it even, and finish off with another straw band, which gives it a neat appearance."



A VASE OF FERNS.

The last beams of the January sun,
Fast sinking now behind the grass-grown hills,
Fall on my desk, and linger 'mid the Ferns
That hint of mossy banks and sparkling rills.

The bunch of feathery beauties was this morn
Bestowed upon me by a little child,
Who plucked them as she walked along to school
Through the Arroya Seco, dank and wild.

The witching tangle of the Maiden-hair,
The sweet grace of the gold and silver Ferns,
The nodding Coffee Fern with beauty rare,
Create a wish within my soul that burns

To leave the busy school-room with its care,
All my perplexities aside to throw,
And rest on yonder grassy, frond-clad hill—
While half the world is wrapped in ice and snow!
ALICE P. ADAMS, *San Gabriel, Cal.*

GARDEN NOTES AND INQUIRIES.

MR. EDITOR:—Will you answer in your next MAGAZINE these questions:

1. What is "mulching," and just how is it done?
2. Is the Wax Plant, *Hoya carnosa*, a plant of very slow growth, or is any particular treatment required to make it grow and bloom? Though I succeed well with flowers in the garden, my pot-plants grow very slowly, and blooms are few and far between.
3. Would you recommend "Bowker's food for flowers" in preference to any home prepared manure? If the latter will do, please tell exactly how to prepare it? Don't tell me to put my pot-plants out in the open border. They will not stand it. Nothing will grow and bloom under our summer's sun but *Verbena*, *Petunia*, *Phlox*, and *Portulaca*, and they sow their own seed and bloom on year after year.—MRS. E. R., *Troup, Texas.*

1. Mulching is covering the soil in which plants are growing with some substance to prevent its rapid drying and acquiring too high a temperature. The mulching material prevents the direct action of the sun upon the soil and, at the same time, checks evaporation from it. The substances most suitable for the purpose are those that are non-conductors of heat, and which will allow water to pass readily through to the soil. Long manure or litter, straw, dead leaves, saw-dust, dried

brakes and ferns, and many other kinds of material are employed for the purpose. Some use a light, porous soil, or leaf-mold, fine peat, or dried swamp-muck. When the heat of the season has declined the mulching can be removed. It is employed for certain plants, but not for others; plants that naturally grow in cooler climates, or on mountain sides, or in moist, shaded ravines especially require this treatment when brought under cultivation in warm climates. The proper use of mulching must depend largely upon individual experience, and will correspond, to a considerable extent, to the nature of the site, the character or composition of the soil and the subsoil, and other local influences, as well as the latitude, altitude, and meteorological conditions.

2. Whether the Wax Plant is of slow or rapid growth depends upon its management. A correspondent last year described his plant as making a growth of ten or fifteen feet in a season. The plant is a free-bloomer when in good condition.

3. The manure mentioned, as well as similar ones and guano, is employed for house-plants because it is convenient. Well-rotted stable-manure, and cow-manure are both valuable and when they can be had readily should be used in preference to others.

CARNATIONS—INSECTS.

Why do the lower leaves of Carnations turn yellow and die?

What will keep the little spiders off Roses and Verbenas?—M. A. R.

The lower leaves of Carnations turn yellow and die as the season's growth matures; the new growth takes place at the extremities. If the atmosphere has a proper amount of moisture the spiders will not live in it.

A LEAF WITH BLACK SPECKS.

MR. JAMES VICK:—I sent you, yesterday, a Geranium leaf covered with black specks; the whole plant is covered with the same thing. It has been washed with tobacco-water and alcohol, but neither seems to remove them. Can you tell what they are? —MRS. R. M., *McPherson, Kansas*.



PELARGONIUM LEAF WITH PERIDA OF PILOBOLUS.

The Geranium leaf here referred to presented the unusual appearance shown in the accompanying illustration. Upon examination under the microscope it was evident that the black specks were the spore-cases of some fungus. Viewed with a low power the black specks appeared of nearly a semi-spherical form, with the rounded surfaces uppermost; by inverting them a small mass of yellowish substance was found under each one, and occasionally one would be seen tilted up or with a crack revealing the yellow matter, and from which proceeded some white filaments, about as shown at 1 and 2 in



X 285 DIA.

X 67 DIA.

SPORES AND SPORE-CASES MAGNIFIED.

the illustration giving an enlarged view. With a magnifying power of 285 diameters the grains of which the mass of yellowish substance was formed appeared of the size shown at figure 3, and of an oval form; these were the spores.

The leaf was submitted to Professor CHARLES H. PECK, the able fungologist connected with the New York Museum

of Natural History, and the following interesting letter from him accounts suppositionally for the singular phenomenon.

"The black specks on the Pelargonium leaf you send me are, as you suspect, a fungus, or rather a part of a fungus. They are the seed vessel (peridium) and spores of some species of *Pilobolus*, but I am not able to say just what species. They did not originate on the leaf, and cannot do it much harm except in the way of defilement. The species of *Pilobolus* grow chiefly on dung, and when mature they throw off with explosive force the seed-vessel and its contents, and this adheres to any adjacent body it may chance to strike. Hence the name, *Pilobolus*, which means "ball-thrower." Probably manure had been placed under or around the Pelargonium plant, and this gave rise to the fungus, which in due time threw its balls of seed upon the plant, thus producing the dotted appearance which is seen."

As already stated, and as the illustration shows, a few spores had germinated, but this probably would be the limit of the vegetation.

HIGHLAND BEAUTY APPLE.

JAMES VICK:—I send you herewith a few of my new seedling Apples, Highland Beauty, which is a seedling from the Lady Apple. Last year was not the bearing year, and we had only a few, but with no special care in keeping they have kept in excellent order, and in a cellar where other varieties have rotted. It is my wish to test this new variety fully before sending it out to the public.—E. P. ROE, *Cornwall-on-Hudson*.

March 17th received from E. P. ROE specimens of seedling Apple, Highland Beauty, in good condition. Very similar in appearance to Lady Apple, except being larger. Form oblate or flattened. A fair sample measured one inch and three-fourths long and two inches and three-eighths in diameter, quite distinctly five-ribbed; skin smooth and waxen in appearance, of a clear yellow color, suffused with crimson and pink in the sun and a few yellow spots; cavity smooth and deep, stem medium, half an inch or more in length, basin broad and angular. Flesh fine-grained, of a mild sub-acid flavor; had lost its crispness, but quality is probably very good earlier in the season. The fruit evidently retains its fine appearance beyond its eating qualities. It will probably prove to be a fine table fruit.

NEW USE FOR BARRELS.

MR. VICK:—When in Glens Falls, N. Y., last autumn, I saw, in the back yard of a German, a barrel of earth with the sides and top nearly covered with Strawberry plants, as here shown. The roots seemed to have been passed through perforations in the barrel and then firmly fixed,



row by row, as the earth was being filled in. As I paused to look at the suggestive spectacle, I could but think it an ingenious and cleanly device, as well as stealing a march on terra firma, where economy of space is desirable. Indeed, one might have a row of barrels with a tier above, (by using a step-ladder, and a bucket for lifting the soil,) if in a position where the necessary winter covering would not too much disfigure the premises.—BUCKEYE WOMAN.

EXPLICIT DIRECTIONS.

MR. JAMES VICK:—I often wish you would give more explicit directions in regard to the culture of house plants on a small scale. Many of your readers are anxious for this—persons who have bay-windows or small conservatories. We should be so glad to have every month some general information in regard to floriculture, also for out-door work in our flower-beds. Take, for instance, the culture of Roses in the house. With me they do not succeed, yet I give them the best of care, but I never have winter bloom. So with many other plants, as the Smilax, Passion-flower, Maurandya, Cactus, Jasmine, Crape Myrtle, Pomegranate, Wax Plant, and many others I might name, will not bloom with me. Will you not in the coming year bear our wants and difficulties in mind by giving us plain instructions in regard to our flowers, both for the house and for our garden beds?—MRS. A. L. C., *Sycamore, Ill.*

We desire to explain in detail every gardening operation and whenever it is found necessary; still, just what our readers would like to know cannot always be

anticipated. But our columns are always open for inquiries, and those who are unusually successful in the management of particular kinds of plants are welcome to give full accounts of their operations, and will be sure to have numerous and interested readers. There should be a sense of obligation to write and explain that others may know in what way any success has been attained.

Window gardening is so commonly practiced that many useful hints could be given by amateurs that would be useful to beginners. To give a monthly programme of work with directions for open ground culture is impracticable; our readers are in every part of this continent with climates almost as varied as localities, and directions that might correspond to the calendar in some few places would most certainly be unseasonable elsewhere. We wish it distinctly understood by our readers that they have the freedom of our columns, subject, of course, to proper supervision, for the interchange of their best thoughts in relation to horticulture and subjects near kindred.

COBŒA SCANDENS.

MR. EDITOR:—I find many things to interest me in your pages. I have not seen it mentioned that the *Cobœa scandens* can be readily propagated from slips, using the ends of growing vines; it is a fact Miss B. may like to know. We amateurs do not find it so easily raised from seed, at least I do not. I had three plants from slips in the house this winter, and they were much better than old vines taken up from the open ground; they blossomed all winter, not very freely, but beautifully, and they climbed ten or fifteen feet, and are still thrifty.—N. A. C., *Oshkosh, Wisconsin.*

With the proper facilities *Cobœa scandens* can be propagated both by cuttings and by layers; the latter method is, perhaps, the more certain one for amateurs, though, with as much care as either cuttings or layers require, success would probably invariably follow with seeds. Very excellent and particular directions were given by our esteemed correspondent, C. E. PARNELL, on page 247, vol. 3, in regard to all the different methods of multiplying this plant.

THE SEASON.—Notwithstanding the mildness of the winter and the promise of an early spring, vegetation is not advanced beyond its usual state at this time (April 17th), and is even later than in some springs



NATURE'S SOBER SECOND THOUGHTS.

Some one has said that Pansies, those velvet autumn-flowers,
Are Nature's sober second thoughts, symbolical of ours;
That good old Mother Nature, so prodigally gay,
Sees all her summer darlings torn ruthlessly away,
And takes a sober second thought, when leaves are brown and sere,
And fashions purple Pansies in the autumn-time of year.

She dresses them sedately, like the season they adorn,
Yet you never see a Pansy looking gloomy or forlorn;
They have the stoutest little hearts that blossoms ever bore,
Nor cherish vain remembrance of the summer-time that's o'er;
Contentedly they wear their robes of purple flecked with gold,
And bless with cheerful ministry the year that's growing old.

So, when the hopes that thrilled our youth are lying crushed and dead,
May wreaths of sober second thoughts replace the garlands shed,
And lend a milder radiance to brighten all the way
That leads us from our life's fair morn through its declining day;
Thus, ere the chilling storms come down and winter winds are rife,
We, too, may find our Pansies, in the autumn-time of life.

—GRACE LEE M., *Syracuse, N. Y.*

THOUGHTS IN EARLY SPRING.

I heard a thousand blended notes
While in a grove I sat reclined,
In that sweet mood when pleasant
thoughts
Bring sad thoughts to the mind.

To her fair works did nature link
The human soul that through me ran;
And much it grieved my heart to think
What man has made of man.

Through Primrose tufts, in that sweet
bower,
The Periwinkle trailed its wreaths;
And 'tis my faith that every flower
Enjoys the air it breathes.

The budding twigs spread out their fan
To catch the breezy air;
And I must think, do all I can,
That there was pleasure there.

—WORDSWORTH.

RESPONSIVE NOTES.

MR. VICK:—I have noticed that the ladies are more successful than the gentlemen with certain flowers, especially with Fuchsias. There certainly must be a charm in the touch of their fingers that just exactly suits the delicate nature of some plants that would almost perish under the treatment of our clumsy hands. And seeing in your March number that R. A. H., Smithville, Ill., are the initials of a lady, I am not at all surprised at the wonderful growth of her Hoya. My Hoya has never been nipped or cut back, although it and the Cactus have been growing together for several years and are still in a healthy condition, both now showing flower-buds.

As novelties seem to be admired, let me describe one that has pleased me, as well as my visitors, this winter and spring. I call it a peasant in royal garments of crimson and gold. The foliage is luxuriant and of the most brilliant crimson, scarlet and rose veined with gold. Take from the kitchen garden a red Turnip-rooted Beet before the tops or leaves begin to grow out, plant in a six-inch pot, let the soil almost cover the crown of the Beet, water, and turn another six-inch pot bottom upward over the one in which the plant is to grow. Now place where it will not freeze or even get chilled, or, which is better, in a pit or cool greenhouse. In a few weeks the leaves will have grown so that the inverted pot will need to be taken off; then it should be kept shaded to retain its brilliancy. To improve the appearance of the whole, cover the soil with live, green moss. A small Beet grown in a little pot is quite an addition to a fernery. Try it.

I would say to R. S. H., Nauvoo, Ill., that, in giving the Stapelia and Cactus the same treatment, the error would probably be that the Cactus would receive too much water. Besides, Stapelias do not so necessarily require a season of rest as the Cactus, but may be kept growing the same as any other house-plant. The smooth, flat-leaved Cactus, Epiphyllum, requires a very rich, open soil, with plenty of drainage. It does best grafted on Pereskia, which greatly promotes the growth and prevents the danger of damping off by over-watering. In the greenhouse the plant should be shaded from the noonday sun, and, if kept there dur-

ing the summer months, the glass should have a thin coat of whitewash. Very frequent repotting does not agree with the Cactus; once a year for young plants, and once in two years is often enough for old established plants; or, if the pots are rather large, they may remain in them as long as four or five years without changing the soil.

To graft a Cactus, it is only necessary to make an incision in the stock and fit into it a cutting of another variety, holding the cutting stationary in the incision until the juices of the two adhere, which will require only a half-minute, or perhaps not so long. R. A. S., *Hood's Landing, Tenn.*

GERANIUMS FOR WINTER.

Some of your readers have become floral-wise by virtue of much study of your lovely MAGAZINE, but to new readers who may not be so well versed in plant-lore, I would suggest that now is the time to plan for next winter's in-door blooming. For this, nothing can be more surely depended on than Geraniums; and whatever else may be cultivated as specialties these, after all, must be the standby for amateurs. So, secure as many strong cuttings as possible, the more the better,—for it is very pleasant to have some to give away,—and set them in rich earth, and when rooted place them where they can remain until you wish to pot the winter-blooming ones. To secure such ones, there must first be a knowledge of color and general character of the bloom, so as to secure a pleasing variety. If this be not known, they must be allowed to blossom sufficiently to show what they are. Then make your winter selection, tie a coarse white thread on the stalk of each, and pinch off each bud, and continue to do so until they are potted for winter. Then leave them in a cool, shady room or hall for a week, then gradually give them light, and finally plenty of sun. Then, if the air is kept soft enough with moisture from, not tepid water, but steam, so that it is fit for human lungs to breathe, your plants will continue healthy with ordinary treatment. And then during the holidays write, please, what your friends are saying of them, so that we may all know.

It has often been observed that in plain apartments where a few healthy plants

are kept, the attention of callers is quite withdrawn from the faded carpet and worn furniture to that which costs little but care.

But to return, the Geraniums that blossomed all summer may be pulled up and thrown away after every healthy cutting has been removed. These may be put in a box of earth and kept where they will grow and be ready for next summer's blooming. Don't, please don't save Geraniums that have done full duty one season. New plants each year are much more satisfactory. So, when your winter Geraniums have bloomed themselves almost to death, have mercy—clip off all the straggling buds and let them recuperate awhile. By the time that the house-cleaning is looming near, the plants may be pulled up, the cuttings all removed, a part of the pots replenished with good soil, and several cuttings placed in each, until all have found growing room, and then you have the next winter's Geraniums started. And now we have made the circle complete from spring to spring. —MRS. M. B. B., *Richmond, Ind.*

BEDDING PLANTS IN THE SOUTH.

Inquiry is often made for bedding plants for the southern part of the country to which it is difficult to respond on account of a lack of information in regard to those kinds that do best in the several sections. Many kinds cannot stand the sun and die outright in a short time; others, though they may live, do not flourish, and are altogether unsatisfactory. A knowledge of all those kinds of flowering and ornamental plants that succeed in the more southern States would greatly promote the advance of horticulture in that portion of the country. These remarks are made principally in relation to South Carolina, Georgia, and the Gulf States. Great differences of course exist between the different parts of each of the States, and particularly between the mountainous and the low-lying portions. So, also, Alabama in its great stretch from north to south must present many variations, and Louisiana, Texas, Mississippi, and Florida have equally as wide differences of temperature, rain-fall, sunshine, and other climatic conditions. What is especially desirable to know is what flowering and ornamental annual

and perennial herbaceous plants succeed in these different parts, in the open ground fully exposed to the sun. If our readers in all parts of these States will write out lists of such reliable plants and forward them to us we shall be pleased to lay the result of all before them in our pages in due time. It will, we are sure, be mutually beneficial to all parts of the southern country. If there are any kinds of plants that, after repeated trials, have proved unreliable, these, also, should be mentioned in a separate list. Besides, it will be well to state what kinds of grass are used for lawns, and what are known to fail. The more of these reports that can be made the better, and we should like to hear in relation to this subject from every one of our southern readers. It will be best to confine these reports to herbaceous flowering plants and to grasses. The names the plants are commonly known by can be given when the botanical names are unknown, but the latter when known should be preferred. Our readers are numerous enough in all these States to make their combined reports a valuable aggregation, and we hope to have full replies from every part. The reports should state in a general way the season of flowering, whether summer or winter or other seasons.

CAMELLIA—HANGING-BASKET.

Inquiry was made in a late issue of the MAGAZINE for an account of successful home treatment of Camellia Japonica. The only one, or two, that I ever saw in bloom in a dwelling-house my mother owned, in Wrentham, Mass. They blossomed finely for her, as did almost every plant. I can only give the general treatment. The window in which the table stood was a southeast window, and under the piazza. The room was heated by an air-tight stove, and in winter a large "chunk" was put in at night, which simply kept the room slightly warm. Indeed, I think it was never kept very warm. I remember that the leaves were washed once a week or so. She always used pretty rich earth for plants. There was no carpet on the floor of the room.

I will describe an elegant hanging-basket my mother once had. It contained only two plants. The upright plant was a Pilea, Artillery Plant, which had reached

unusual size. The other was a variety of moss commonly kept at greenhouses. It had formed a dense mass, covering the edges of the pot and the sides, and uniting underneath and hanging in a mass below, thus giving the shape of the pot, but covering it entirely. It was "a thing of beauty."—ANNA WOODRUFF.

GREEN-WORM ON MIGNONETTE.

A reader, at Milverton, Ontario, asks if we can "suggest anything to prevent the ravages of the small green caterpillar that destroys our Mignonette year after year." The efforts that have been made the last few years to destroy insects that prey upon our vegetation have established the fact that an article in common use in nearly every household, kerosene or coal-oil, can be used with great advantage for this purpose. The only trouble is that if used pure, or in anything like its full strength, it will destroy vegetable as well as insect life. But it can be diluted with water to the extent of rendering it harmless to vegetation, while it still remains destructive to insects. The precise limits of ratio between water and oil have not yet been learned, but we know how these substances may be mixed to be efficacious in most cases. A harmless mixture for most plants is a tablespoonful of common burning oil to a gallon of water, but if used in only half this strength it will destroy most insects. An account was given on page 25 of this volume of Mr. EWING, of Ohio, using a mixture of oil and water in the proportion of one-tenth oil to nine-tenths water for Potato bugs. Our advice to all who would fight plant-insects is to try this substance carefully; use weak mixtures, and, if found necessary, increase the strength. When attempts were first made in using this oil great difficulty was found in mixing it with water, now we know that it is necessary to first mix the oil with a little milk or, what is better, with some soft soap, or whale-oil soap, and then add the proper quantity of water; these substances will all freely intermingle. When it is necessary to throw the mixture a considerable distance, as into trees and tall shrubs, a garden syringe is the proper instrument to employ, but for plants within easy reach nothing is better than the india-rubber hand sprinkler, or elastic plant sprinkler as it is called.

As noticed last month, gas-tar water has been proved efficient in protecting Potatoes from the Colorado beetle, and further use of it will no doubt show it to be equally valuable to fight many other insects with.

With the substances named above, and with London purple and Paris green, and Hellebore, and Tobacco, and many milder substances, one can certainly keep the little insects at bay, at least, if they are used promptly. We hope this season to hear of some splendid victories over the multitudinous enemy, by strategy, by brilliant maneuvers, and by vigorous assault.

COAL-OIL FOR INSECTS.

MR. EDITOR:—Did you not request those of your readers who might experiment with kerosene as a destroyer of plant pests, to write to you the result of their experience? I think you did, hence this report.

I have tried kerosene for the green lice that are apt to infest Apple Geraniums and Abutilons, and with fine success. I merely soaked bits of charcoal in the oil and placed several pieces in each pot around the stem of the plant. Before doing this, however, I destroyed all the insects I could; the rest soon disappeared.

I tried kerosene also, last year, for scale insect on an Oleander which was almost covered with the pest. I poured into about half a gallon of warm water half a teaspoonful of oil; then, with a cloth wet with the mixture, I wiped every leaf carefully. As the plant was not more than three feet in height I could manage to do this. Since that time my Oleander has been perfectly healthy, and I never saw finer blooms than those it produced last summer and fall, even in its winter quarters in the pit after frost.—E. B. H., *White Plains, Ga.*

SEEDS FOR THE SCHOOLS.—A fair number of applications from different parts of the country have been received for seeds to sow in the school grounds. The offer is still made and will continue in force through the year, and those can avail themselves of it who will. California and the most southern States can probably make use of flower seeds to best advantage in the fall, consequently no report will be expected from them this year.

PHACELIA CONGESTA.

This summer-flowering annual supplies very pretty blue flowers for bouquets, and it is desirable especially on this account. It is a native of Texas, and is one of the hardier annuals. It derives its name from



the Greek word, *phakelos*, a bundle, referring to the manner in which the flower buds are rolled up together. It is of the easiest culture, and one can hardly fail to raise it well with ordinary care.

RETURNING THANKS.

MR. VICK:—I have just finished reading the MAGAZINE for April, and I want to thank E. A. M. for the article on "Mulching in dry weather," and suggest that we pin it in our hats in view of another dry season. Only two of my border of Pansies survived the long drought, and had it not been for Phacelia, Browallia, and Sweet Alyssum, both double and single, my garden would have been but a bare, brown spot in the fall. But does our friend in Alleghany county really intend that we should believe that her talking to the Pansies is what makes them thrive? I never waste any words or sweetness on mine, O, no! my velvety-toed puss that delights to accompany me on my gardening excursions is the recipient of all that, yet my Pansies flourished, and, until the dry weather closed their career, bloomed from early spring until late in the fall; formerly they bloomed nicely for me in the spring and then died, but at last I captured an idea that a friend had left lying around loose, and now know that the true secret of Pansy culture is this, "pick every flower that opens and never allow a seed-pod to mature." Sweet

Peas, Phacelia, Balsams, Thunbergia, and undoubtedly many others require the same treatment; every seed is at the expense of the plant, and robs us of no one knows how many flowers, as the maturing of seed exhausts the plant far more than the blooming does. Raising flowers and raising seed are each a separate occupation, and can not be successfully combined on a small scale. I should think every one was as well acquainted with these facts as I am, had I not heard so many declare their efforts were failures, which causes me to think there are many who are yet in the dark.

Here it is the tenth of April, gardens partially made, buds ready to burst, Hyacinths just coming to perfection, tender Roses unprotected and a cold wave coming upon us threatening to freeze every thing solid; if it is that rascal VENNOR again he ought to be vetoed.

JENNY DARE, my pretty puss is as fond of the birds as you are, and tames them, too, whenever an opportunity offers, be it Song Sparrow, Cat-bird, or Robin; he shows no partiality.—LILLIAN DEAN, Kent, Ohio.

COAL-OIL, SOAP AND WATER.

We have tried washing our house-plants in soap and water, with a few drops of kerosene added, to remove insects, and have found it a sure remedy, but to be used with care on Heliotropes. The odor of the kerosene quickly leaves the plants, and the effect is so good that one is soon reconciled to the trouble. We have also found this treatment a specific for white-fly on Roses in the garden.

We feel our way in the art of plant-growing very much as the quack doctor did in healing the sick, when he jotted down in his note-book, "Calomel cures a shoemaker but kills a blacksmith." We have had a hand-sprinkler this winter, and it has saved the foliage of our Cobœa, which is now full of buds and blossoms; and has kept insects off Carnations and Roses.—M. C. J., Woodstock, Vt.

ODD CYCLAMEN.—A Cyclamen which I have has three crowns. One produces pure white flowers, another a deep bright pink, and the third, white striped with pink. It is lovely when the three kinds are out at once.—MRS. M. G. C., Beloit, Wis.

VARIOUS INQUIRIES.

"Subscriber" enquires what would be the proper inference if a florist's catalogue made no mention of the manner in which the Rose plants therein offered for sale were propagated; and further asks if we should not "infer that they were probably grafted." We cannot see that there would be anything in the catalogue itself from which an inference of any kind in relation to the propagation could be made. It would be reasonable to suppose that the method employed was that which the combined experience of the florists of the country had found to be best; and the fact is that more than nine-tenths of the Roses raised in this country are grown on their own roots. It would be quite unwarrantable to suppose that they were either grafted or budded, as this practice is confined to some special varieties which succeed better in that way than any other.

Mrs. A. G. C., of Milton, Mass., says, "I have a handsome Holly Fern. Can it be propagated by seed? Do you detach the seeds from the leaf, or put leaf and seeds under the soil together?" The spores (seeds) borne in the fruit-dots on the undersides of Fern fronds are expelled and scattered very soon after they ripen, and without examining carefully with a magnifying glass one might be only sowing chaff instead of spores. The proper way to collect spores for propagation is to watch closely the plant that bears them and, as soon as the fruit-dots assume a brownish, ripened appearance, place a sheet of white paper underneath them, and then gently rap the frond, and the spores will fall upon the paper, appearing like brown dust. To raise plants from the spores they should be sown on soil in a pot of moist earth and kept in a moderate temperature with a moist atmosphere until they germinate. Take a common flower pot, or propagating pan, and fill it nearly full, packing it firmly, with a soil composed of loam and leaf-mold and sand, after first placing in the bottom an inch or two of broken pot-sherds for drainage. Moisten the soil thoroughly and then sprinkle the dust over the surface, and cover the pot with a pane of glass. Stand the pot in the shade, and in a saucer or dish in which about an inch of water can be kept all the time; this

will supply moisture from below steadily, so there will be no danger of the soil becoming dry. The temperature may be as low as 45° or 50° at night, or it may be higher. In about two months the little plants will begin to show themselves as little, roundish, flat bodies of a green color lying on the surface of the soil. Later on they will commence to throw up fronds.

Mrs. R. S. H., of Nauvoo, Ill., enquires what to do to prevent the aster-bug from destroying the flower buds. If any one of our readers can give information on this point it will be received with pleasure. This insect has never troubled our plants.

The same lady asks, "What shall I do to keep the mole from ploughing my garden and creeping around under my very choicest bulbs?" We know of no better advice to give in this case than to recommend a useful little implement that is regarded with much favor wherever it has been tried. This is the Isbell mole-trap. A little experience will enable one to employ it very effectively in the destruction of the little animals.

Mrs. A. A. K., Waterloo, Quebec, complains that a white fly for the last two years has nearly ruined the foliage of her Roses, and wishes to know what to do to prevent their operations. We have always used whale-oil soap and water, syringing the foliage with it. The author of *The Rose*, besides recommending the above, says, "We have found syringing the plants with pure water, so as to wet the lower sides of the leaves, and then dusting on powdered white hellebore, will destroy or disperse them."

Mrs. F. G. C. wishes to know the best plan for propagating Fuchsias and Hibiscus, and, also, whether the Oleander will root better in water or earth. Cuttings of Oleander placed in a bottle of soft mud and kept in a warm place will root quite freely. A little water must be supplied occasionally to replace that lost by evaporation. Cuttings of Fuchsias, Hibiscus, and many other shrubby plants, including most of the hardy shrubs of our gardens, may be propagated with the greatest ease, during summer, out of doors. In this vicinity, usually about the

first of June or soon after, the Deutzias and Spireas, Weigelas, Altheas, Roses, Honeysuckles, Hydrangeas and some other shrubs are in a suitable condition for propagating. At that time the wood has commenced to become firm, but is not yet hard, and cuttings made from it in that condition will root with scarcely a failure when inserted in moist sand in a shallow box that may stand in some place a little shaded by a bush or tree. The cuttings are to be made with three or four buds, and having the uppermost two leaves left on. For a day or two after the cuttings are inserted they may be covered with a paper to prevent too rapid evaporation of moisture, but afterwards can be fully exposed. It will be best to sink the box to the level of the ground surface, in order to retain the humidity of the sand. Water is to be given as necessary. Soft-wooded plants, such as Begonias, Geraniums, Heliotropes, Coleus, and others used for bedding, may be raised in this way all summer.

J. T. M., of Winsted, Conn., enquires the color of the hardy Hydrangea, and remarks, "I have several in my yard; the flowers are white, and I did not think any other color had yet been produced. But an agent has been in this section selling the pink and the blue, hardy Hydrangea, to be delivered this spring." The only Hydrangea hardy in New York or Connecticut is *Hydrangea paniculata grandiflora*, with white flowers. *Hydrangea Hortensia*, the old, well-known species with pink flowers, is not quite hardy here or in Connecticut. The other species of *Hydrangea* in cultivation in this country are still more tender.

NEW PUBLICATIONS.

The Rose. By H. B. ELLWANGER. New York: Dodd, Mead & Co. Pp. 300. Price, \$1.25.

An excellent and reliable manual on the cultivation, family characteristics, etc., of the various groups of Roses, with accurate descriptions of the varieties now generally grown.

Report of the Fruit Growers' Association of the Province of Ontario for the year 1881, and the Annual Report of the Entomological Society of the Province of Ontario, together forming a volume of 225 pages.

These reports are so good that any attempt to give a synopsis of them would cover a great number of topics. We can

only advise those of our Canadian readers who may wish to know the condition of the fruit-growing interest in their own country at the present time, and to have the most reliable information in regard to it, to apply for a copy of the combined reports to D. W. BEADLE, St. Catharines, Ontario.

The Land of the Midnight Sun. Summer and Winter Journeyings through Sweden, Norway, Lapland and Northern Finland. With map and 235 illustrations, in two volumes. By PAUL DU CHAILLU. New York: Harper & Brothers. Pp. 900. Price, \$7.50.

A most interesting and charming work for every one, and specially desirable for schools and public libraries.

Report of the Michigan Horticultural Society. By CHARLES W. GARFIELD, Secretary, Lansing, Mich. W. S. George & Co., 1881.

This report is an unusually interesting one, but is what might be expected from a very flourishing society with able officers, especially with its competent and efficient secretary. The Society is in many respects a model one.

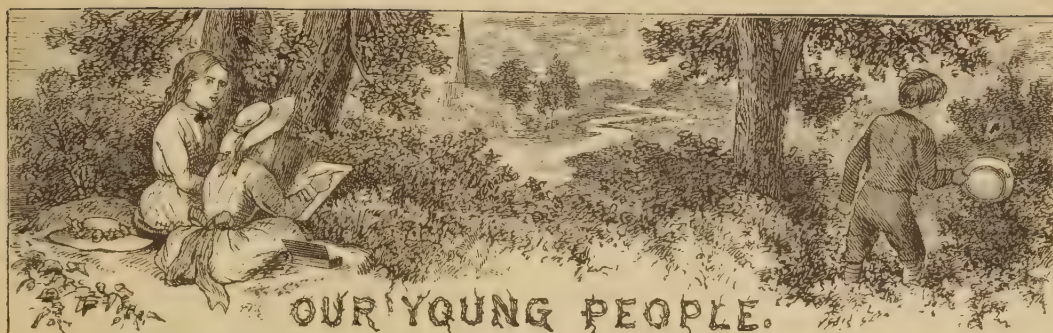
Proceedings of the Western New York Horticultural Society, 1882.

Those of our readers who are acquainted with this Society need not be informed of the value of its reports; in fact, the report, or great portions of it, has already been published, from time to time, during the last three months, in most of the agricultural journals of this country. The Society is a power in the land.

Guide to the Flora of Washington and Vicinity. By LESTER F. WARD, A. M.

This is one of the Bulletins of the United States National Museum, (No. 22), and is one of the most complete and well arranged floras we have ever seen, and reflects much credit on the author. An appendix of some twenty-five or thirty pages contains most valuable suggestions and directions to beginners in the study of botany.

PLANTS FOR NAME.—We are receiving constantly by mail from all parts of the country specimens of native plants to be named. Many of the plants are received crushed and badly mutilated, and others in a half-decayed state by reason of sending them too moist. If all specimens were first placed between dry papers and pressed for ten days, changing the papers two or three times, they could then be sent in the best condition for examination.



A LESSON IN THE FOREST.

Something gathers up all fragments
And nothing is lost.

—FOURCROY.

These words, so suggestive of the wise economy of the Creator, are simply a paraphrase of the words of Jesus to his disciples at the feast of the hungry multitude on the grassy mountain slopes of Palestine: "Gather up the fragments that remain that nothing may be lost." We are apt to read these words without entering into the fullness of their meaning. We think only of their obvious import, that no waste of provision should be made by us, but that even the fragments should be gathered up and made use of for ourselves or for our poor. The old French Chemist FOURCROY's eyes were opened to behold a wider and deeper meaning in the saying. He saw that in nature there is no waste from the greatest to the least; not an atom, unnoticed and unseen by us, but has its place and its part to fulfil.

The waves of the mighty ocean are kept back by the sand that has been worn from the lofty hills and rocks by the action of the winds, the snows, the frosts, and the rains of ages past; these atoms are brought down by the rivers to the seas and, mingling with the waters, are again borne onward; the ocean waves bear these minute fragments on their bosoms to lay them softly down to form a barrier against their own encroachments on the shore, unknowingly fulfilling the grand dictates of their mighty Creator:

"Hitherto shalt thou come,
And no farther—and here shall thy
Proud waves be stayed."

The tiny fragments are doing a great work and obeying unconsciously a wise law.

Chemistry presents many and most

striking examples of the wonderful combinations that take place under the eyes of the scientific searchers into the mysteries of nature, but these things I must leave to other heads.

Let us go into the forest that we may realize the truth of the words, that "something gathers up the fragments and nothing is lost." The depths of the forest present at first a scene of tangled confusion; here lie fallen trees with their upturned roots prostrate; branchless, leafless, decaying trunks; beds of blackened leaves; shattered branches, whitened or grey with fungus growth; standing, barkless stems ready to fall; the wood is graved into many fantastic patterns by the worms that had been sheltered there in their nurseries when the tree was living and strong; a thousand forms of vegetable life are on the soil, filling up all vacant spaces. In the silence of that lonely wilderness there is active life; nothing is idle—something is gathering up all fragments that nothing be lost. Instead of waste and confusion, we shall find that all these things are working out the will of the Creator, and we may say with the poet

"Disorder order, unperceived by thee;
All chance direction, which thou canst not see."

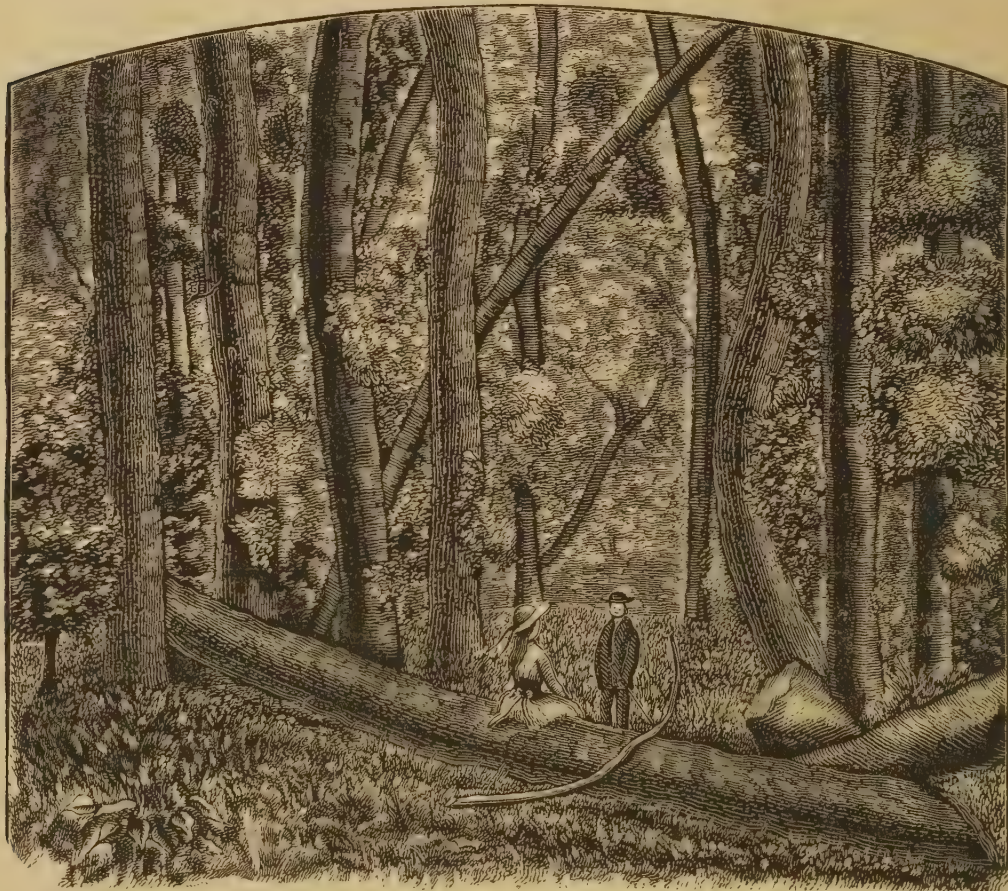
Here lies one of the old giants of the forest at our feet; by its huge size and the fragments of thick rifted bark beside it, it must have had a growth of some two centuries, may be more, drinking in the rain, and the dews, and fed by the gasses that float unseen upon the atmosphere. The earth had sustained it, given support to its net work of cable-like roots, fed the tender rootlets from its stores of minerals and its other resources. The roots, those vegetable miners, were never idle, but always digging material in the dark earth to supply the tree with strength and substance; building up hour by hour the

massive trunk, the branches, the woody fibres, taking up and selecting by wondrous power, such particles as were suited to increase the growth and minister to the peculiar qualities of the tree, whether it may have been Oak, Maple, Pine, or any other species. But while the tree had been yearly receiving, it had also been restoring to the earth and to the atmosphere something that it did not require; it had given back to the earth fresh matter in the form of leaves and decayed

can these low forms of life be in this lonely forest glade, with no eye to mark their beauty? Nay, say not so; and may not his words be true when the poet says—

“Thousands of unseen spirits walk this earth
Both while we wake and while we sleep;
And think, though man were none,
That earth would want spectators,
God want praise?”

These silent laborers have daily work before them for which they ask no wages, nor seek reward, and yet it is for man's

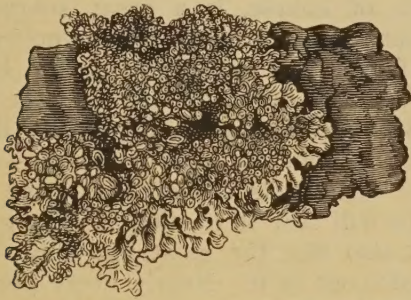


A FOREST SCENE.

branches, and effete bark; it had purified and changed the gasses by which it had lived. Something had gathered up the fragments that it had thrown off. Let us look closer at the fallen tree that lies before us. What do we see? A verdant covering of variegated mosses, soft as velvet, but far more lovely; here, on this mouldering old tree-trunk, are miniature forests of many species of Mosses, Hypnum, Dicranum, Bryum, with Lichens of the tenderest grey, yellow, or brown, or may be a tuft of fungus brilliant in hues of gorgeous scarlet, purple, fawn, or gold, exquisite in form and color. What use

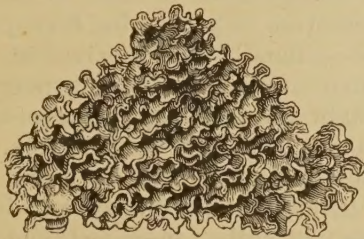
benefit. Possibly some one will say “How can these things be? What service can the decaying forest tree, with its coating of tiny green Mosses, and its Lichens, and its fungi render to man?” We will examine the matter more closely and shall find that it is a fact, which can be proved if we patiently look into it. The process is simple and easily understood; slowly but surely is the effect produced. The floating germs of vegetable life in the spores (seeds) of the Lichens and Mosses falling on the moistened surface of the decaying timber, finds soil suited to the peculiar growth and devel-

opment of their organs. These minute vegetables may be tiny Lichens, Cladonias, or Parmelias, such as we notice on old stone walls, or wooden palings, forming patches of green, or golden yellow color, which one ignorant of their character might take to be only a portion of weather-worn wood, instead of living organisms. These simple forms of vegeta-



PARMELIA TILIACEA (LICHEN).

tion in various phases begin the work of decomposition; and in time these decay and give place to Mosses, which, as they increase, send down their wedge-like roots between the fibres of the bark and into the tissues of the wood already softened by the former occupants. The dews, the showers, the frosts, and the snow falling upon the sponge-like Mosses, invigorate them with their moisture, and they continue to increase year by year till they form thick mats that cover over the surface of the wood. Some of these beautiful Mosses are not mere annuals; that lovely Hypnum, with fan-shaped branches, is of several years continuance, each fresh branchlet is the growth of a year. I have counted some nine branchlets on one stem, but the lower ones already decaying. This Moss is found on decaying,



CETRARIA JUNIPERINA (LICHEN).

fallen tree-trunks, and is known as Hypnum splendens, and is not uncommon. There are many others that continue year after year.

Let us now raise that mat of velvet-looking Moss, which is also a Hypnum, but so minute and so closely packed that

it presents a uniform, smooth surface. It seems a pity to disturb it in its beauty, but we would like to look below and see what its work has been during the past years. A bed of rich, black vegetable mold, the residue of the annual decay of the tiny Mosses, meets the eye; below that mould we look, and lo! we behold layers of decayed wood—a loose network of fibres; the cellular tissues have disappeared, and with the least pressure of the hand or foot the whole fabric falls into a powdery mass. The very heart-wood has yielded up its strength under the influences of the agencies brought to bear upon it; a few more years and it will be seen no more. The mighty tree, with the Mosses and Lichens will have returned to mother earth, “ashes to ashes and dust



HYPNUM POPULEUM (MOSS).

to dust!” The little plants that eat into its noble heart have done their work, they, too, have disappeared, they are no longer needed, the gasses have been set free and restored to the atmosphere, but something has gathered up all fragments and nothing has been lost.

The Mosses had been a warm, sheltering home for myriads of insects; these had gathered up many fragments during their infant state, all tending to reduce the wood to the earthy state which was again to enter into other forms. Then man comes a settler in the forest wilderness, an emigrant from his native land.

He comes to find a home, to clear away the giant trees of the wood with ax and fire. He clears the ground, sows the Wheat and the Corn upon the rich surface mould, but he may not think that he owes much of its fertility to the unseen, insignificant agents that for ages and ages by the direction of infinite wisdom and goodness have been preparing the ground to receive the grain that he sows for the life-supporting bread. Thus, by his Heavenly Father's order "something gathers up all fragments and nothing is lost."

OUR AQUARIUM.

It is over two years ago since we first got two gold-fish. We had them in a small glass globe that hung in our parlor window by a chain, and looked very pretty, but the day before going on the Y. M. C. A. excursion from Port Hope to Rochester and to your gardens I cleaned it out, and, in the act of hanging it up again, the chain broke, and lo! the poor fish were on the carpet with glass, gravel, chain and the water that was no more good for them. Luckily I had a pan of water in the kitchen, which I flew after and had the fish into in half a minute, and off they went as if nothing had happened. I borrowed a globe until we got the aquarium we have now, and which holds three large pails of water, and has a pretty rockery with a jet for a fountain in the center. At different times we have added sunfish, minnows, bass, polywogs, crawfish, turtles and a soldier-fish, and by watching them find the peaceful kinds. The sunfish we had to take out, as they chased the gold-fish and bit their tails and fins, as also did the soldier-fish, but we partitioned him off in one end with a pane of glass, and would you believe it! he was so crazy after the others that he would jump over the top, or we would find a hole made in the gravel under the glass. We had to make a small scoop-net to catch him again. The crawfish used to eat each other, I believe, as they disappeared one by one, and they tried to catch the gold-fish when they went near them. We had two polywogs, but now one, as the other turned into a frog, and in a few days got tired of being a frog and died; the other one has been trying to do the same since last August, when we first noticed signs of the hind

legs, and suppose some of these fine days, when he gets his fore-paws, he will pull off his jacket. The turtle we have left we have had since last summer. He was very torpid all winter, as their custom is, but about six weeks ago he woke up and has been eating beafsteak and all the flies we could get in the house. He is very tame and takes things off our finger; we often have him out for a run on the table, which, of course, is a great source of amusement for the juveniles, who bring him flies. The gold-fish like the beef, and there is quite an exciting race between them and the turtle when I drop in pieces about the size of a hemp-seed. If the turtle gets a piece too large for him he will tear it to pieces. The polywogs also like the meat, but only suck the juice out of it. Nearly every person that I know changes the water too often, and think the fish live on air, which I cannot say of our fish, as they are always ready for their bit, and are fat in consequence. We feed them on the prepared food which, I think, is rice paper. They like plain boiled rice as well, but as the food is handy we use it. We found once a week often enough to change the water in the globe, and once a month for the aquarium. A small Calla Lily in a pot sunk in the gravel answers well for keeping the water pure, and last fall I got some Water Cress from the creek, which is green still. I would not do without my fish any more than I would do without my birds and flowers.—Mrs. W. J. N., *Fenelon Falls, Ont.*

IN PREPARATION.

As the wild flowers bloom, we are having drawings made of some of them with the intention of presenting their portraits to the readers of this department. It is a fact that most of our young people, and we might add old people, know very little about our common wild flowers. Many of these plants are to be found over a wide extent of our country, and if young friends will collect them as they may find them and press them between papers, or in large books, they may be able to recognize them eventually when the engravings and descriptions are given. The date and place of collecting should be written on a small ticket of white paper and placed with the specimens.

